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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,728	07/25/2001	Satoshi Kunimitsu	1794-0140P	4064

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EXAMINER	
CZEKAJ, DAVID J	

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/911,728	KUNIMITSU ET AL.	
	Examiner	Art Unit	
	Dave Czekaj	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 October 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8-30-04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

On pages 3-4, the applicant argues that Lanigan does not detect the two dimensional coordinates of the corner fittings. While the applicant's points are understood, the examiner respectfully disagrees. See for example Lanigan figures 2-3, 5, and column 5, lines 13-36. There Lanigan describes orienting the grappler with the container. A first line is drawn across the screen which represents the orientation of the grappler. Next an edge, or corner, is displayed on the screen as a second line. When the two lines are overlaid with each other, the grappler is correctly positioned on the container. The examiner notes that in order to display the line corresponding to the container, the two-dimensional coordinates or x-y coordinates must be calculated in order to properly align the grappler with the container. Therefore, the rejection has been maintained.

On page 3, the applicant argues that Hauck fails to disclose obtaining a three-dimensional position based on distance and position of the corner fittings. While the applicants points are understood, the examiner respectfully disagrees. See for example Hauck column 3, lines 16-33 and column 6, lines 59-67. There Hauck discloses calculating the three-dimensional position of an object. The images from the cameras are provided to a processing computer which uses subtraction and triangulation to calculate the three-dimensional position and orientation of the object at predetermined intervals. Further, the examiner notes that calculation of three-dimensional position

based on distance is well known within the level of one skilled in the art. Therefore, the rejection has been maintained.

On page 4, the applicant argues that the references fail to disclose illuminating the corner fittings. While the applicant's points are understood, the examiner respectfully disagrees. See for example Hauck figure 1. There Hauck shows a light source 12 illuminating the entire object which encompasses the corners. Therefore, the rejection has been maintained.

On page 5, the applicant argues that Erikkila does not show adjustment of the light source. While the applicant's are understood, the examiner respectfully disagrees. See for example, Erikkila figure 12A and column 11, lines 62-67 – column 12, lines 1-5. There Erikkila discloses verifying information, such as light, is correct before taking an image. If the information is not correct, adjustments can be made. Therefore, the rejection has been maintained.

On page 6, the applicant argues that Lanigan does not describe the template matching. While the applicants points are understood, the examiner respectfully disagrees. See for example Lanigan figures 2-3, 5, and column 5, lines 13-36. There Lanigan describes orienting the grappler with the container. A first line is drawn across the screen which represents the orientation of the grappler. Next an edge, or corner, is displayed on the screen as a second line. When the two lines are overlaid with each other, the grappler is correctly positioned on the container. The examiner notes that each line represents a template which must be correctly matched to ensure the container is properly connected with the grappler.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lanigan, Jr. et al (6081292), (hereinafter referred to as "Lanigan") in view of Hauck et al. (5760415), (hereinafter referred to as "Hauck").

Regarding claim 1, Lanigan discloses an apparatus that relates to a system for positioning a grappler relative to a container (Lanigan: column 1, lines 5-9). This apparatus comprises "a plurality of cameras disposed vertically downward mounted on a crane for conveying containers and photographing corner fittings mounted on the upper surface of a container" (Lanigan: figure 2, column 4, lines 20-23, wherein the cameras are the video devices which are shown mounted downward on a crane, column 4, lines 31-35, wherein the photographing is the images taken of the container, the corner fittings are the locking holes), "a distance finder for determining a distance between the hoisting accessory and the container" (Lanigan: figures 2 and 4, wherein the distance finder is the height sensor), and "an image processor for image processing video from the cameras to detect two-dimensional coordinates of the corner fittings of the container" (Lanigan: figure 4, wherein the image processor is the processor, column 5, lines 66-67 – column 6, lines 1-3, wherein the alignment sensor helps

determine the coordinates of the corner fittings or edge of the container). However, this apparatus lacks performing an arithmetical operation of a three-dimensional position on the basis of the two-dimensional coordinates as claimed. Hauck teaches that photogrammetic systems for high precision three-dimensional measurements of objects are well known in the art (Hauck: column 1, lines 18-20). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to take the apparatus disclosed by Lanigan and add the three-dimensional measurements taught by Hauck in order to obtain an apparatus that can provide a better quality image to the user. One would be further motivated since it is well known in the art to do so.

Regarding claim 2, note the examiners rejection for claim 1 and in addition claim 2 further requires a plurality of illuminating light sources for illuminating the corner fittings. Although not disclosed, it would have been obvious to implement a plurality of light sources (Official Notice). Doing so would have been obvious in order to obtain an apparatus that can be used more frequently (day and night).

3. Claims 3-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lanigan, Jr. et al (6081292), (hereinafter referred to as "Lanigan") in view of Hauck et al. (5760415), (hereinafter referred to as "Hauck") in further view of Erikkila (6256553).

Regarding claim 3, note the examiners rejection for claim 1, and in addition, claim 3 differs from claim 1 in that claim 3 further requires a controller for adjusting the light based on the distance. Erikkila teaches that before a picture is taken and recorded, the zoom, focus, and light need to be correct

(Erikkila: column 11, lines 62-67 – column 12, lines 1-3). To help ensure this process is correct, Erikkila discloses adjusting or correcting the light (Erikkila: figure 12A). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to take the apparatus disclosed by Lanigan, add the three-dimensional measurements taught by Hauck, and add the light control means taught by Erikkila in order to obtain an apparatus that can provide a better quality image to the user.

Regarding claims 4-6, Lanigan discloses "the processor detects the corner fittings on the upper surface of the container in accordance with template matching" (Lanigan: figures 2 and 4, column 4, lines 25-30, wherein the processor, thru the use of the cameras, detects the corner fittings).

Regarding claims 7-12, Erikkila discloses "image processor updates the sizes of the images on the basis of distance information" (Erikkila: figure 12A, wherein changing the size of the image is updating the magnification ratio).

Regarding claims 13-18, Erikkila discloses "the cameras are the ones for changing automatically a photographing magnification on the basis of distance information" (Erikkila: figure 12A, wherein the magnification is adjusted for the given distance).

Regarding claims 19-21, although not disclosed, it would have been obvious to store the image of the region of the corner fittings (Official Notice). Doing so would have been obvious in order to save the image for later use.

Regarding claims 22-33, Lanigan in view of Hauck in view of Erikkila disclose "template matching processing involves a preparation means for preparing template images of corner fittings in every container and detecting the hole positions in the corner fittings" (Hauck: column 3, lines 16-34, column 4, lines 37-46, wherein the template images are prepared via the photogrammetric process; Lanigan: figures 2 and 4, column 6, lines 1-13, wherein the corner fittings are detected).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dave Czekaj whose telephone number is (703) 305-3418. The examiner can normally be reached on Monday - Friday 9 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CHRIS KELLEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENT